

From glowbugs@theporch.com Sat Jan 18 10:47:08 1997  
Return-Path: <glowbugs@theporch.com>  
Received: from uro (localhost.theporch.com [127.0.0.1])  
by uro.theporch.com (8.8.5/AUX-3.1.1)  
with SMTP id KAA05614;  
Sat, 18 Jan 1997 10:42:53 -0600 (CST)  
Date: Sat, 18 Jan 1997 10:42:53 -0600 (CST)  
Message-Id: <199701181642.KAA05614@uro.theporch.com>  
Errors-To: ws4s@infoave.net  
Reply-To: glowbugs@theporch.com  
Originator: glowbugs@theporch.com  
Sender: glowbugs@theporch.com  
Precedence: bulk  
From: glowbugs@theporch.com  
To: Multiple recipients of list <glowbugs@theporch.com>  
Subject: GLOWBUGS digest 418  
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas  
X-Comment: Please send list server requests to listproc@theporch.com  
Status: 0

#### GLOWBUGS Digest 418

Topics covered in this issue include:

- 1) Re: VFO question (resend; pse forgive if redundant!)  
by larrys@fmis02.nsc.com (LARRY SZENDREI - NSFM PROCESS ENGINEERING -  
207-775-8513)
- 2) Re: 3rd overtone xtals  
by Jeffrey Herman <jherman@hawaii.edu>
- 3) What is a 12B4 tube?  
by rdkeys@csemail.cropsci.ncsu.edu
- 4) Re: overtone xtals  
by Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>
- 5) Re: What is a 12B4 tube?  
by rdkeys@csemail.cropsci.ncsu.edu
- 6) Crystals from BG Micro  
by jefffd@coriolis.com (Jeff Duntemann)
- 7) Re: Crystals from BG Micro  
by Conard Murray <ws4s@InfoAve.Net>
- 8) Re: Crystal from JB free.  
by John <johnmb@mindspring.com>
- 9) Re: What is a 12B4 tube?  
by toyboat@freenet.edmonton.ab.ca
- 10) Re: Crystal from JB free.  
by "Brian Carling" <bry@mail1.mnsinc.com>
- 11) Re: Crystals from BG Micro  
by "Brian Carling" <bry@mail1.mnsinc.com>
- 12) THE PHILLIPS CODE: BI-CENTENNIAL EDITION

- by "Joseph L. Hartmann, Jr." <joe@sugar-river.net>
- 13) Re: Hamshack Glowbug RF Exposure Evaluation thoughts/tools/procedures, etc.  
by Murray Kelly <mkelly@faraday.dialix.com.au>
- 14) Re:Shareware source Radio, Antenna, ect. ect.  
by Bob Roach <KE4QOK@worldnet.att.net>
- 15) Re: 3rd overtone xtals  
by Bob Roehrig <broehrig@admin.aurora.edu>
- 16) Re: 3rd overtone xtals  
by mjsilva@ix.netcom.com (michael silva)
- 17) Re: 3rd overtone xtals  
by Bob Roehrig <broehrig@admin.aurora.edu>

-----

Date: Fri, 17 Jan 1997 11:31:21 -0500  
From: larrys@fmis02.nsc.com (LARRY SZENDREI - NSFM PROCESS ENGINEERING -  
207-775-8513)  
To: mack@mails.imed.com, glowbugs@theporch.com  
Subject: Re: VFO question (resend; pse forgive if redundant!)  
Message-ID: <97011711312104@fmis02.nsc.com>

Greetings, Ray...

On 01/10/97 you wrote to GLOWBUGS:

>The easiest way to get the first doubling is to feed the  
>output of the oscillator through a full wave center tap transformer  
>with 2 signal diodes. This is a very efficient doubler. Just put in  
>a switch to select the doubled or straight through signals. All bands  
>above 160M will require at least one 2X so that is an easy way to get  
>it. This would allow the second 5763 to be 1X, 2X, or 3X depending on  
>the band selected. The diodes will give a fairly constant load to the  
>oscillator as well. As an even better solution, change the diodes to  
>a 6AL5. This will allow a higher grid signal voltage to the second  
>5763.

My situation is thus:

I have a Knight VFO (model # unknown) which uses a 6AU6 (or 6BA6?) 160M  
(Colpitts?) osc. and a 6AK5 doubler to 80M. Although the dial is calibrated for  
80M, 40M, 20M, 15M, and 10M, there is good and bad news. The good news is that  
despite the lack of calibration and doubling stage there is still enough output  
on the fundamental (160M) to use this VFO on 160M with my otherwise homegrown 3-  
stage 160M-10M low power AM/CW transmitter. The bad news is that this  
transmitter wants to see an input from the VFO on 40M for the 15M and 10M bands.  
The plate tank of the doubler stage in the VFO is a slug-tuned coil, which  
resonates on 80M with the parallel circuit capacitances (coax to transmitter,  
transmitter grid circuit, etc.). I tried winding another inductance to resonate

on 40M but this requires the multiplier stage in the VFO to quadruple, which doesn't provide sufficient drive for the subsequent multiplier stage in the homebrew XMTR. I get similarly disappointing results by taking the 80M output and attempting to quadruple to 20M (for ultimate 10M operation after doubling in the driver) in the subsequent multiplier stage --> insufficient grid drive to the final.

Your posting has perhaps provided a solution. Please tell me if there are any caveats to the following proposal. Lets say I center-tap the 80M tank coil in the plate circuit of the doubler in the VFO, and hook this to the plate supply (instead of one end going to the plate supply as presently configured). The ends of the coil would then hook to the 2 signal diodes in the "full wave" connection to provide doubling to 40M. The 80M output would be at either end of the tank coil, and the 40M output would be at the junction of the diodes cathodes (or anodes - since we don't care if we rectify the (+) or (-) half-cycles. Of course the output at this point would be blocked for DC with a cap., as it is for the 80M output already. On one hand it would seem that this should work, on the other hand I feel like I'm breaking a basic law that says "you don't get something for nothing." I realize that this approach might reduce my output on 160M and 80M, but I seem to have surplus drive on these bands. What I am trying to avoid like the plague is building an additional (active) multiplier stage in order to make the transmitter function with the VFO for 15M and 10M operation.

Or do you have any other ideas to propose??

Thanks,  
Larry, NE1S  
larrys@fmis02.nsc.com

-----  
Date: Fri, 17 Jan 1997 07:25:50 -1000  
From: Jeffrey Herman <jherman@hawaii.edu>  
To: Glowbugs List <glowbugs@theporch.com>  
Subject: Re: 3rd overtone xtals  
Message-ID: <Pine.GS0.3.93.970117071939.129B-100000@uhunix3>

Thank-you to all who replied to my query; some said yes (they will operate on the fundamental), others said no.

The project is a converter; I'm using a 150mhz xtal on it's 40 meg fundamental (subtract the IF) to run an oscillator; the osc will be fed into a mixer whose input will be 2m - output will be 100 megs and fed into an FM bcst band tuner so I can listen to the 2m rptrs on my FM music radio.

Even if it doesn't work, it's still fun to play around with the soldering gun...

73 from chilly Hawaii (went down to 60 last night - brrrrrr),  
Jeff KH2PZ / KH7

-----  
Date: Fri, 17 Jan 1997 14:37:26 -0500 (EST)  
From: rdkeys@csemail.cropsci.ncsu.edu  
To: glowbugs@theporch.com  
Subject: What is a 12B4 tube?  
Message-ID: <9701171937.AA124072@csemail.cropsci.ncsu.edu>

Can anyone tell me what a 12B4 tube is, offhand? It looks like a rectifier of some sort, maybe? I found a couple in the trash. If they are good for anything, I may hang onto them. They have HP stamped on them.

Bob/NA4G

-----  
Date: Fri, 17 Jan 1997 12:31:56 -0600  
From: Bill Sorsby <bill.sorsby@dlep1.itg.ti.com>  
To: glowbugs@theporch.com  
Subject: Re: overtone xtals  
Message-ID: <199701171832.MAA29953@lesol1.dseg.ti.com>

At 11:10 PM 1/16/97 -0600, Jeff Herman wrote:

>I've got a 3rd overtone xtal that I want to operate on its fundamental  
>freq'y. Are these type of xtals designed to perform better on that  
>3rd harmonic than on their fundamental?

Hi Jeff,

I ended up with a stash of crystals a while back (no ham-band) and checked a few of the third overtone crystals for operation at the fundamental frequency. They worked just fine. A book I've got on designing crystal oscillator circuits indicates that crystals are optimized for overtone operation by minimizing other spurious responses. It didn't mention how this affected the fundamental mode so I experimented. I tried a few in my KWM-2A at the fundamental frequency and found that they worked quite well. I couldn't tell any difference between the overtone crystals operating at their fundamental and fundamental mode crystals.

FWIW, while the overtone frequency is not exactly a multiple of the

fundamental, I recall that it's only a fraction of a percent different. After determining the fundamental frequency for one crystal, others were quite predictable.

Regards,  
Bill Sorsby, N5BU

\*\*\*\*\*  
bill.sorsby@dlep1.itg.ti.com  
Views expressed herein are no one's fault but mine.  
\*\*\*\*\*

-----

Date: Fri, 17 Jan 1997 15:06:53 -0500 (EST)  
From: rdkeys@csemail.cropsci.ncsu.edu  
To: MICHAEL@ecs.umass.edu (John Michael)  
Cc: rdkeys@csemail.cropsci.ncsu.edu ()  
Subject: Re: What is a 12B4 tube?  
Message-ID: <9701172006.AA124161@csemail.cropsci.ncsu.edu>

>  
> >Can anyone tell me what a 12B4 tube is, offhand? It looks like a rectifier  
> >of some sort, maybe? I found a couple in the trash. If they are good  
> >for anything, I may hang onto them. They have HP stamped on them.  
>  
> Think it's a triode used in TV vertical deflection amps, Bob.  
> With a plate dissipation of 5.5 watts, you might do something with them  
> in a low power GB rig.  
>  
> John            michael@ecs.umass.edu

Hey, if that is so, I fears me a'glo'buggin' me will be!

Lessee.... a 3579 rocco, with a pillbottle coil with a two turn link,  
on a piece of sheet plywood, with a 12 volt dynamotor, sounds  
like a good weekend hammer an' bang and solder project.

Nah, ..... a Hartley oscillator on a pillbottle coil from No. 14 house  
wire with a 1-turn link to a series LC network to a 65 foot  
wire..... yup, that sounds like a better hammer an' bang and  
solder project.

Or, ..... make up a 9 pin to 4 pin adapter and drop it in Henrietta  
Hartley to replace a '45, mebbe.... hmmmmm.....

Ideas, Ideas, Ideas, the stuff fer glowebugge funzies.....

Ain't dumpster diving fun..... fer glowebugge fodder.....(:+{}}.....

Mebbe a good weekend fer de ol' 3579R545 QRG....., after all!

73/ZUT DE NA4G/Bob UP

-----  
Date: Fri, 17 Jan 1997 14:17:15 -0700  
From: jeffd@coriolis.com (Jeff Duntemann)  
To: glowbugs@theporch.com  
Subject: Crystals from BG Micro  
Message-ID: <1.5.4.32.19970117141030.00f3d4d8@ntserver.coriolis.com>

Hi gang--

Just got the periodic B. G. Micro catalog. It's worth mentioning for the sake of the surplus crystals they offer. Here are some notable frequencies: (All in MC)

1.8432 \$1.59  
1.940 \$1.10  
3.5468 \$ .99  
3.579etc. (color burst) \$.60  
3.9950 (probably too close to the band edge) \$.75  
3.99984 (WAY too close to the band edge...) \$.69  
7.15909 \$ .75  
7.164112 \$1.00  
14.31818 \$1.00

Not much else for the glowbug crowd but for some small parts and hardware, but there are some crystal frequencies here I don't see a lot on the surplus market. I've bought lots of stuff from them in the past (mostly transistors) and they've been quite reliable.

B. G. Micro  
PO Box 280298  
Dallas TX 75228  
1-800-276-2206

bgmicro@bgmicro.com  
<http://www.bgmicro.com/>

--73--

--Jeff Duntemann KG7JF  
Scottsdale, Arizona

-----  
Date: Fri, 17 Jan 1997 16:04:19 -0500  
From: Conard Murray <ws4s@InfoAve.Net>  
To: jeffd@coriolis.com  
Cc: glowbugs@theporch.com  
Subject: Re: Crystals from BG Micro  
Message-ID: <2.2.32.19970117210419.009c9678@infoave.net>

Hi Jeff and the gang .... I am including the whole message as I know that half of you or more missed this one due to routing errors. What do y'all think about trying 1940 KHz as a GB cw frequency? The freq sort of goes with the stuff we run anyway ... maybe 1930 would be better if we could find cheap rocks there!

ZUT!

de Conard WS4S

At 03:19 PM 1/17/97 -0600, you wrote:

>Hi gang--

>

>Just got the periodic B. G. Micro catalog. It's worth mentioning for the  
>sake of the surplus crystals they offer. Here are some notable frequencies:  
>(All in MC)

>

>1.8432 \$1.59

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>

>Not much else for the glowbug crowd but for some small parts and hardware,  
>but there are some crystal frequencies here I don't see a lot on the surplus  
>market. I've bought lots of stuff from them in the past (mostly  
>transistors) and they've been quite reliable.

>

>B. G. Micro  
>PO Box 280298  
>Dallas TX 75228  
>1-800-276-2206  
>  
>bgmicro@bgmicro.com  
><http://www.bgmicro.com/>  
>  
>  
>--73--  
>  
>--Jeff Duntemann KG7JF  
> Scottsdale, Arizona  
>  
>

.-.-.-.-.-.  
. Conard Murray WS4S Glowbugs listowner .  
. 217 Dyer Avenue ws4s@infoave.net .  
. Cookeville, TN 38501 615-526-4093 .  
. <>< Wise men still seek Him <>< .  
. -.-.-.-.-.

-----  
Date: Fri, 17 Jan 1997 17:34:18 -0500  
From: John <[johnmb@mindspring.com](mailto:johnmb@mindspring.com)>  
To: [ws4s@infoave.net](mailto:ws4s@infoave.net), [glowbugs@theporch.com](mailto:glowbugs@theporch.com)  
Subject: Re: Crystal from JB free.  
Message-ID: <199701172232.RAA28532@mule1.mindspring.com>

At 04:17 PM 1/17/97 -0600, you wrote:

>Hi Jeff and the gang ..... Here are some notable frequencies:

>  
>>7.15909 \$ .75  
>

I still have some of these I'll give free (one each)  
to any glowbuggers who'll send a SASE...

/John  
wb5oau/4

+-----+  
John Brewer [johnmb@mindspring.com](mailto:johnmb@mindspring.com)  
WB50AU/4 AMI #24  
Vintage Gear web page: <http://www.mindspring.com/~johnmb>  
+-----+



-----  
Date: Fri, 17 Jan 1997 15:36:28 -0700 (MST)  
From: toyboat@freenet.edmonton.ab.ca  
To: rdkeys@csemail.cropsci.ncsu.edu  
Cc: Multiple recipients of list <glowbugs@theporch.com>  
Subject: Re: What is a 12B4 tube?  
Message-ID: <Pine.A41.3.95.970117152340.76806B-100000@fn2.freenet.edmonton.ab.ca>

Is it a 9 pin miniature? My RCA tube manual describes a 12B4A as a low mu, high perveance triode used in TV vertical deflection amplifiers.

Is the 12B4 not a pre-cursor to the 12B4A? I wonder, because I know that you have a mighty selection of manuals at hand, and that you probably have looked up the 12B4A.

Regards,  
Shane Wilcox

\*\*\*\*\*  
\*\* Shane <toyboat@freenet.edmonton.ab.ca> \*\*  
\*\*\*\*\*  
\*\* Edmonton, Alberta, Canada \*\*  
\*\*\*\*\*

On Fri, 17 Jan 1997 rdkeys@csemail.cropsci.ncsu.edu wrote:

> Can anyone tell me what a 12B4 tube is, offhand? It looks like a rectifier  
> of some sort, maybe? I found a couple in the trash. If they are good  
> for anything, I may hang onto them. They have HP stamped on them.  
>  
> Bob/NA4G  
>

-----  
Date: Fri, 17 Jan 1997 16:52:36 +0000  
From: "Brian Carling" <bry@mail1.mnsinc.com>  
To: glowbugs@theporch.com  
Subject: Re: Crystal from JB free.  
Message-ID: <199701180052.TAA29486@news2.mnsinc.com>

What good is 7.159 ??  
Is that a Glowbug AM frequency?

On 17 Jan 97 at 16:34, John spoke about Re: Crystal from JB free.  
and said:

> At 04:17 PM 1/17/97 -0600, you wrote:  
> >Hi Jeff and the gang ..... Here are some notable frequencies:  
> >  
> >>7.15909 \$ .75  
> >  
> I still have some of these I'll give free (one each)  
> to any glowbuggers who'll send a SASE...  
> /John  
> wb5oau/4  
>  
> +-----+  
> +-----+  
> John Brewer johnmb@mindspring.com  
> WB50AU/4 AMI #24  
>  
> Vintage Gear web page: <http://www.mindspring.com/~johnmb>  
> +-----+  
> +-----+  
>  
>  
\*\*\*\*\*  
\*\*\* 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA \*  
\*\* E-mail to: bry@mnsinc.com \*  
\*\*\* See the great ham radio resources at: \*  
\*\* <http://www.mnsinc.com/bry/> \*  
\*\*\*\*\*

-----  
Date: Fri, 17 Jan 1997 16:52:35 +0000  
From: "Brian Carling" <bry@mail1.mnsinc.com>  
To: glowbugs@theporch.com  
Subject: Re: Crystals from BG Micro  
Message-ID: <199701180052.TAA29550@news2.mnsinc.com>

Conard - 1.8432 would be better.  
1) It is in the recognized CW sub-band so other CW ops would find us more easily, and  
2) There are a lot of these out there available as "surplus" since they are used on CPU boards and the like.

Bry

On 17 Jan 97 at 16:17, Conard Murray spoke about Re: Crystals from BG Micro and said:

> Hi Jeff and the gang .... I am including the whole message as I know

> that half of you or more missed this one due to routing errors. What  
 > do y'all think about trying 1940 KHz as a GB cw frequency? The freq  
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 >  
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 > >Not much else for the glowbug crowd but for some small parts and  
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 > >the past (mostly transistors) and they've been quite reliable.  
 > >  
 > >B. G. Micro  
 > >PO Box 280298  
 > >Dallas TX 75228  
 > >1-800-276-2206  
 > >  
 > >bgmicro@bgmicro.com  
 > ><http://www.bgmicro.com/>  
 > >  
 > >  
 > >--73--  
 > >  
 > >--Jeff Duntemann KG7JF  
 > > Scottsdale, Arizona  
 > >  
 > >  
 > .-.-.-.-.-  
 > . Conard Murray WS4S Glowbugs listowner .  
 > . 217 Dyer Avenue ws4s@infoave.net .

```
> .      Cookeville, TN  38501  615-526-4093      .  
> .          <>< Wise men still seek Him <><      .  
> .....  
>  
>
```

```
*****
*** 73 from Radio AF4K / G3XLQ in Gaithersburg, MD USA *
** E-mail to: bry@mnsinc.com *
*** See the great ham radio resources at: *
** http://www.mnsinc.com/bry/ *
*****
```

Date: Fri, 17 Jan 1997 21:08:10 -0500 (EST)  
From: "Joseph L. Hartmann, Jr." <joe@h@araki.sugar-river.net>  
To: a list2 <glowbugs@theporch.com>  
Subject: THE PHILLIPS CODE: BI-CENTENNIAL EDITION  
Message-ID: <Pine.BSD/.3.91.970117210051.19423A-100000@araki.sugar-river.net>

"The Phillips Code"      Bi-Centennial Edition

We now have the BICENTENNIAL edition wrapped in ascii, where it hopefully will survive to provide present and future historians of the Telegraph a snapshot of history.

If you want a copy of the Phillips code (and the american morse) with the Introduction and the biographical note on Walter Polk Phillips both by Dr. E.Stuart Davis, send me email re PHILLIPS.

The file is 153 K.

There is no charge for this copy, and I am placing it in the public domain as a small memorial to my friend, Stu.

Date: Sat, 18 Jan 1997 12:29:25 +1100  
From: Murray Kelly <mkelly@faraday.dialix.com.au>  
To: rdkeys@csemail.cropsci.ncsu.edu  
Subject: Re: Hamshack Glowbug RF Exposure Evaluation thoughts/tools/procedures,  
etc.  
Message-ID: <32E02775.5BAE@faraday.dialix.com.au>

All this talk of RF in the work place has me thinking I will take my homebrew 1 transistor FS meter to work. For 35 years I have been standing next to a 200W transmitter.

The Electric Cautery machine (Diathermy) which runs abt. 3MHz is always placed near the anesthetic machine. Seems to be 'the right place'. All the OR staff are exposed all day - the people who use it - the surgeons - come and go irregularly.

Might be quite interesting - especially the reaction of the troops!

So far I'm OK, OK, OK, O.....

```
*****
*      Murray Kelly vk4aok      mkelly@faraday.dialix.com.au      *
*      29 Molonga Ter. / Graceville/ QLD. 4075/ Australia      *
*      ph/fax Intl+ 61 7 3379 3307  mobile 018 071 355      *
*****
```

-----  
Date: Sat, 18 Jan 1997 03:27:09 +0000  
From: Bob Roach <KE4QOK@worldnet.att.net>  
To: JCoote@aol.com  
Cc: boatanchors@theporch.com, glowbugs@theporch.com, gqrp-l@blacksheep.org,  
Subject: Re:Shareware source Radio, Antenna, ect. ect.  
Message-ID: <19970118032649.AAE18207@LOCALNAME>

At 02:04 PM 1/17/97 +0000, you wrote:  
>I've heard about software for modeling and designing HF center-fed,  
>groundplane, wire and other antennas.

Hi Jay,

The following address is a shareware search engine. I used it to find and antenna program called NEC4WIN (try search for NEC4). This program is probably just what you are looking for. I have installed it and looked at it but not had a chance to use it much.

><http://www.shareware.com/>

(o o)

-----o00\_( )\_00o-----

73 es TNX

KE4QOK

Real radios glow in the dark.

Bob

Power is no substitute for skill.

If it stayed up last winter, it was too small.

136 Hermitage Rd.

Newport News, Va. 23606 KE4QOK@worldnet.att.net  
(757)930-0348

-----  
Date: Fri, 17 Jan 1997 21:49:42 -0600 (CST)  
From: Bob Roehrig <broehrig@admin.aurora.edu>  
To: Jeffrey Herman <jherman@hawaii.edu>  
Cc: Multiple recipients of list <glowbugs@theporch.com>  
Subject: Re: 3rd overtone xtals  
Message-ID: <Pine.ULT.3.95.970117214521.8384A-100000@admin.aurora.edu>

On Fri, 17 Jan 1997, Jeffrey Herman wrote:

> Thank-you to all who replied to my query; some said yes (they will operate  
> on the fundamental), others said no.

As I said before - they WILL work on the fundamental. I use a lot  
of xtals that way in my Drake 2-B to cover other than ham bands.

> The project is a converter; I'm using a 150mhz xtal on it's 40 meg  
> fundamental (subtract the IF) to run an oscillator; the osc will be  
> fed into a mixer whose input will be 2m - output will be 100 megs  
> and fed into an FM bcst band tuner so I can listen to the 2m rpters  
> on my FM music radio.

Only problem with using a FM bdcst radio to listen to 2 meters on is that  
the recieved audio will be WAY down. Remember that an FM bdcst signal  
has 15 times the deviation of a ham FM signal on 2 meters. When the  
signal is there you will have to crank up the volume, then you will get  
blasted with noise when the carrier drops.

E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI  
CIS: Data / Telecom Aurora University, Aurora, IL  
630-844-4898 Fax 630-844-5530

-----  
Date: Fri, 17 Jan 1997 21:43:26 -0800  
From: mjsilva@ix.netcom.com (michael silva)  
To: glowbugs@theporch.com  
Subject: Re: 3rd overtone xtals  
Message-ID: <199701180543.VAA07441@dfw-ix1.ix.netcom.com>

>> Thank-you to all who replied to my query; some said yes (they will  
>>operate on the fundamental), others said no.

>  
>As I said before - they WILL work on the fundamental. I use a lot  
>of xtals that way in my Drake 2-B to cover other than ham bands.

Yep. I stick mystery scanner crystals in my GDO to find out what they  
"really" are and they oscillate happily at their fundamental. BTW, how  
do you know your crystal is a 3rd overtone? The 150 MHz one's I've  
looked at seem to all be 9th overtones, as I remember.

>  
>> The project is a converter; I'm using a 150mhz xtal on it's 40 meg  
>> fundamental (subtract the IF) to run an oscillator; the osc will be  
>> fed into a mixer whose input will be 2m - output will be 100 megs  
>> and fed into an FM bcst band tuner so I can listen to the 2m rptrs  
>> on my FM music radio.

>  
>Only problem with using a FM bdcst radio to listen to 2 meters on is  
that  
>the recivered audio will be WAY down. Remember that an FM bdcst signal  
>has 15 times the deviation of a ham FM signal on 2 meters. When the  
>signal is there you will have to crank up the volume, then you will  
get  
>blasted with noise when the carrier drops.

Not only that, but you'll be receiving about 150-200 kHz of the band at  
once.

73,  
Mike, KK6GM

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Date: Sat, 18 Jan 1997 09:39:42 -0600 (CST)  
From: Bob Roehrig <broehrig@admin.aurora.edu>  
To: michael silva <mjsilva@ix.netcom.com>  
Cc: Multiple recipients of list <glowbugs@theporch.com>  
Subject: Re: 3rd overtone xtals  
Message-ID: <Pine.ULT.3.95.970118093821.13471A-1000000@admin.aurora.edu>

On Fri, 17 Jan 1997, michael silva wrote:

> Yep. I stick mystery scanner crystals in my GDO to find out what they  
> "really" are and they oscillate happily at their fundamental. BTW, how  
> do you know your crystal is a 3rd overtone? The 150 MHz one's I've  
> looked at seem to all be 9th overtones, as I remember.

You can pretty well bet that any xtal over 20 MHz is an overtone job  
(see JAN xtals catalog). I don't know how you determine if it is a

3rd, 5th, 7th, etc.....

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End of GLOWBUGS Digest 418

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